

ABSTRACT

An information recording medium capable of high-density recording and accurate reproduction and also capable of repeated recording and reproduction, an information recording device that employs the information recording medium has a Co-Si oxide thin film 1 constructed such that columnar crystals 2 are separated by an intergranular phase 3 which contains SiO_2 having a lower coefficient of thermal conductivity than the columnar crystals 2. Therefore, the intergranular phase 3 prevents heat transfer from one columnar crystal 2 to another. In addition, the intergranular phase 3 separates columnar crystals 2 from each other, so that the crystalline structure of each columnar crystal 2 is not affected by its adjacent columnar crystal 2. The advantage of such construction is that the columnar crystals 2 do not undergo phase transformation except for those which were given energy necessary for phase transformation directly from the laser beam, and hence columnar crystals 2 overheated by the laser beam do not affect their adjacent columnar crystals. Thus it is possible to accurately form recording pits whose mark length is smaller than the laser beam diameter.